



## PATENT ABSTRACTS OF JAPAN

(11) Publication number: 11111084 A

(43) Date of publication of application: 23.04.1999

(51) Int. Cl. H01B 13/00

H01B 12/10

(21) Application number: 09273050

(22) Date of filing: 06.10.1997

(71) Applicant: KOBE STEEL LTD

(72) Inventor: MIYAZAKI TAKAYOSHI

SHIMADA MASAO

MIYATAKE TAKAYUKI

HASE TAKASHI

MURAKAMI YUKINOBU

**(54) Nb<sub>3</sub>Sn SUPERCONDUCTIVE WIRE MEMBER  
TO OBTAIN HIGH CRITICAL CURRENT  
DENSITY, AND MANUFACTURE THEREOF**

## (57) Abstract:

**PROBLEM TO BE SOLVED:** To provide an Nb<sub>3</sub>Sn superconductive wire member in which compactness can be realized when it is applied to a superconductive magnet, and in which a high critical current density can be obtained at a magnetic field of 11T or more, a manufacturing method thereof, and a superconductive magnet using the Nb<sub>3</sub>Sn superconductive wire member.

**SOLUTION:** For an Nb<sub>3</sub>Sn superconductive wire member in which plural filaments of Nb or Nb alloy are embedded in base material comprising Cu-Sn base alloy, the diameter of the filament is 3 μm or less in the case where the material is used in a magnetic field of 11-18T, and the diameter of the filament is 3-8 μm in the case where it is used in a magnetic field of 18T

or more. In manufacturing the Nb<sub>3</sub>Sn superconductive wire member, a coil to form a magnetic field of 11-18T is heat-treated at 600-700°C, and a coil to form a magnetic field of 18T or more is heat-treated at 700-800°C for obtaining a higher critical current density.

COPYRIGHT: (C)1999,JPO

